

Philip Morris Research

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PMUSA

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ERP: Context

- **Announcement to scientific community in August 2000**
- **Research to support direction of reduced harm of smoking**
- **Worldwide**
- **Credible process**
- **Independent publication**
- **Clear attribution of PMUSA funding**

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ERP: Cornerstones

- **Published research agenda, process, SAB members**
- **Independent process to select proposals for funding**
- **Publication of data in peer-reviewed scientific journals or at credible scientific conferences encouraged**

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ERP: Purpose

To support the highest quality research that

- **contributes to fundamental scientific knowledge,**
- **helps address the concerns of the public health community regarding cigarette smoking, and**
- **enables Philip Morris to continue its pursuit of product modification(s) or new product design(s) that might reduce the health risk of smoking.**

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ERP: Focus

– Exposure / Biomarkers / Dosimetry

- Measures of exposure (including methodologies)
- Measures of biological effects

– Epidemiological Research

- Cancer
- Cardiovascular diseases
- Respiratory diseases
- Reproductive, maternal and placental effects
- Combination designs of some or all of the above
- Exposure, biomarkers, and potential mechanisms

– Clinical and Model Systems Research, including Validation, and Assays

- Cancer
- Cardiovascular diseases
- Respiratory diseases
- Reproductive, maternal, and placental effects
- Relevant smoke constituents related to mechanisms

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ERP: Focus (cont.)

– Mechanistic Research

- Molecular reactions related to cell regulation
- Cellular processes
- Disease mechanisms

– Tobacco Smoke and Smoking Behavior

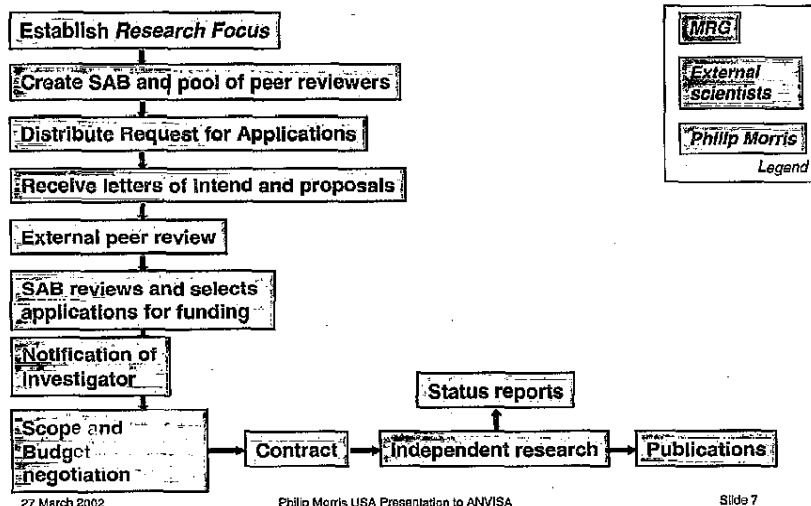
- Biochemical and molecular mechanisms
- Nicotine
- Other smoke constituents

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ERP: Process



ERP: Science Advisory Board

- Roy Albert, M.D. University of Cincinnati Medical Center
- Curtis Klaassen, Ph.D. University of Kansas Medical Center
- Morton Lippmann, Ph.D. New York University Medical Center
- Hans Marquardt, M.D. University of Hamburg Medical Center, Germany
- Cassandra Smith, Ph.D. Boston University
- Mark Utell, M.D. University of Rochester Medical Center

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ERP: Peer reviewers

- Approximately 200 external scientists serving as peer reviewers
 - **USA** **75%**
 - **International** **25%**
- From academia, medical institutions, schools of public health, government agencies

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ERP: Key dates

Annual cycle:

- | | |
|------------------------------------|------------------|
| • RFA advertised and mailed | May |
| • Letter of Intend due | Jul. |
| • Proposals due | Aug. |
| • Notification of awards | Feb. 2002 |

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ERP: 2000 Statistics

- Mailing of RFA 2,600
- Advertising in Journals Science, Nature
- Number of proposals received 153
 - USA 101
 - Europe 27
 - Asia 18
 - Canada 5
 - South America 2
- Number of proposals selected by SAB for funding 66

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5175

ERP: 2000 Statistics - Scientific areas

Cardiovascular	
– CVD epidemiology, physiology, pathology	7
Respiratory diseases	
– COPD, asthma	8
Cancer	
– carcinogenesis, diagnostics, therapy	13
Genetics	
– genomics, genetic susceptibility, genotoxicity	7
Neuroscience	
– neurotoxicity, neuropharmacology, behavior	12
Toxicology	
– inhalation, mechanisms, biochemical	17
Other	
– e.g. exposure assessment, risk assessment, general epidemiology	2
	66

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Publications Resulting from Philip Morris External Research Program Funding

1. Jones, S.; Lo, H.; Simon, S.A., "Nicotinic Receptors in the Peripheral Nervous System", In: Levin, E.D., ed. *Nicotinic Receptors in the Nervous System* CRC Press; 2001: 79-107.
2. Katz, D.B.; Nicoletti, M.A.L.; Simon, S.A., "Electrophysiological Studies of Gustation in Awake Rats", In: Simon, S.A.; Nicoletti, M.A.L., eds. *Methods in Chemosensory Research* Boca Raton; London; New York; London: CRC Press; 2001: 339-357.
3. Katz, D.B.; Simon, S.A.; Nicoletti, M.A.L., "Dynamic and Multimodal Responses of Gustatory Cortical Neurons in Awake Rats", *J. of Neurosci.* **21**: 4478-4489; 2001.
4. Liu, L.; Oortgiesen, M.; Li, L.; Simon, S.A., "Capsaicin inhibits activation of voltage-gated sodium currents in capsaicin-sensitive trigeminal ganglion neurons", *J. Neurophysiol.* **85**: 745-758; 2001.
5. Xu, Z.; Seidler, F.J.; Ali, S.F.; Silker, W., Jr.; Slotkin, T.A., "Fetal and adolescent nicotine administration: Effects on CNS serotonergic system", *Brain Research*, 914(1-2): 166-178; 2001.
6. Katz, D.B.; Simon, S.A.; Nicoletti, M.A.L., "Taste specific neuronal ensembles from the gustatory cortex of awake rats", *J. of Neurosci.* **22**: 1850-1857; 2002.
7. Liu, L.; Simon, S.A., "Acidic stimuli activates two distinct pathways in taste receptor cells from rat fungiform papillae", *Brain Research*, 923, 58-70, 2001

As of February 2002

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Philip Morris RD&E: Scientific Publications & Presentations 2001

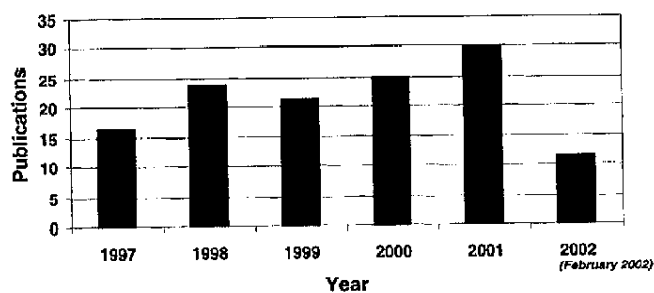
- 30 Publications
- 76 Presentations
- Represented areas:
 - Ingredients
 - Nicotine
 - Nitrosamines
 - Toxicology
 - Animal models
 - Molecular biology
 - Electrically heated cigarettes
 - Smoke chemistry
 - Metallurgy
 - Aerosol physics
 - Indoor air

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Philip Morris RD&E Peer Reviewed Scientific Publications



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